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| 09/434,404      | 11/05/1999  | ATSUSHI MATSUMOTO    | 862.3194            | 3919             |

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EXAMINER

POKRZYWA, JOSEPH R

ART UNIT PAPER NUMBER

2622

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/434,404

Applicant(s)

MATSUMOTO ET AL.

Examiner

Joseph R. Pokrzywa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment was received on 8/3/04, and has been entered and made of record. Currently, **claims 1-17 and 26** are pending.

### *Response to Arguments*

2. After reviewing the previously cited reference of Fukaya (U.S. Patent Number 6,275,303), the examiner believes that the reference can still be interpreted as anticipating the claims as currently written in the amendment dated 8/3/04. A full discussion follows.
3. Applicant's arguments filed 8/3/04 have been fully considered but they are not persuasive.

In response to applicant's argument regarding the rejection of **claim 1**, which was previously cited as being anticipated by Fukaya (U.S. Patent Number 6,275,303), wherein applicant argues on page 10 that Fukaya fails to teach of the currently amended limitation in the claim, which requires a switch process based on a combination of plural different types of attributes. As read in column 6, lines 50-54, Fukaya teaches in that page description language data is stored in the RAM 23. The page description language data includes command numbers that describe various attributes such as setting colors, forming a quadrangle, forming a circle, setting paper size, and changing a dither pattern, as read in column 5, line 23-column 6, line 41. In this cited section, Fukaya additionally describes a plurality of different dither patterns being stored in ROM 22, wherein the dither patterns are different in "threshold values, size of matrix a

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shape of pattern, the number of screen line and other properties”. Thus, the stored command numbers within the page description language data and the stored dither patterns can be interpreted as attribute information representing a plurality of different types of attributes of the inputted object data.

Further, as read in column 1, lines 23-34, “...each pixel of which has a multi-level tone value, such as a value that ranges between 0 and 255 (i.e., 8 bits value)”. Thus, plural bits are assigned to each pixel to represent a multi-level tone. Further, as read in column 5, lines 36-63, 8 bits of tone values represent the color for each pixel. With this, Fukaya can be interpreted as teaching of means for holding attribute information representing a plurality of different types of attributes of the inputted object data in units of pixels of a bitmap image generated by the generation means, as required in the claim. Continuing, Fukaya teaches of switching the contents of processing in the conversion means on the basis of a combination of the plurality of different types of attributes represented by the attribute information held by the hold means, as read in column 9, line 62 through column 10, line 31, whereby the dither pattern is changed, so that the combination of the different types (being the combination of the stored dither pattern, along with the stored command numbers) of attributes are switched.

Further, applicant argues on page 11 that Fukaya fails to teach of allocating attribute information to **each** pixel and utilizing such attribute information for **changing** contents of processing. As discussed above, Fukaya teaches in column 1, lines 23-34, that “...each pixel of which has a multi-level tone value, such as a value that ranges between 0 and 255 (i.e., 8 bits value)”. Thus, plural bits are assigned to each pixel to represent a multi-level tone. Further, as read in column 5, lines 36-63, 8 bits of tone values represent the color for each pixel. With this,

one of ordinary skill in the art can recognize that the attribute information is formed by allocating plural bits to each pixel of the bitmap image.

4. Therefore, the rejection of *claim 1*, which was cited in the Office action dated 4/30/04, under 35 U.S.C. 102(e), as being anticipated by Fukaya, is repeated in this Office action.

Similarly, the rejection of *claims 11, 12, 17, and 26*, which were also cited in the Office action dated 4/30/04, under 35 U.S.C. 102(e), as being anticipated by Fukaya, are repeated in this Office action.

#### ***Claim Rejections - 35 USC § 102***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. **Claims 1-17, and 26** are rejected under 35 U.S.C. 102(e) as being anticipated by Fukaya (U.S. Patent Number 6,275,303, cited in the Office action dated 4/30/04).

Regarding *claim 1*, Fukaya discloses an image processing apparatus (printer 120, seen in Fig. 1), comprising means for generating a bitmap image on the basis of inputted object data (column 1, lines 23 through 51, and column 6, line 25 through column 7, line 26), means for holding attribute information representing a plurality of different types of attributes of the inputted object data in units of pixels of a bitmap image generated by the generation means (column 6, line 46 through column 7, line 27), the attribute information being formed by allocating plural bits of each pixel of the bitmap image (column 7, lines 7 through 63), means for converting the bitmap image generated by the generation means into data capable of being processed by an image output unit (column 9, lines 9 through 61), and means for switching the

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contents of processing in the conversion means on the basis of a combination of the plurality of different types of attributes represented by the attribute information held by the hold means (column 6, lines 29 through 41, and column 9, line 62 through column 10, line 31).

Regarding **claim 2**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the holding means holds an attribute map in which the attribute information is arranged for each pixel corresponding to a two-dimensional coordinate position of the bitmap image (column 5, lines 43 through 63, and column 6, lines 12 through 24).

Regarding **claim 3**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the holding means embeds the attribute information into bits of a part of each pixel data of the bitmap image (column 5, lines 43 through 57, and column 6, line 46 through column 7, line 27).

Regarding **claim 4**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the attribute information includes information representing whether object data corresponding thereto has the form of bitmap data (column 5, line 43 through column 7, line 27) or the form of vector data.

Regarding **claim 5**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the conversion means includes processing for converting a bitmap image generated by the generation means into binary data using a dither matrix (column 6, lines 25 through 41, and column 8, line 1 through column 9, line 45), and the switching means changes the dither matrix used in the conversion means on the basis of the attribute information (column 1, line 23 through column 2, line 6, column 6, lines 25 through 41, and column 9, lines 62 through 67).

Regarding **claim 6**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the generation means generates a bitmap image based on RGB color space (see Fig. 7, and column 6, lines 46 through 61, wherein color images transmitted to printer 120 would inherently be based on a RGB color space within the computer 110 so as that images are displayable), the conversion means includes color conversion processing for converting each pixel data of the bitmap image into pixel data represented by YMCK color space (column 7, lines 7 through 27, and column 9, lines 5 through 57), and the switch means changes an algorithm of the color conversion processing on the basis of the attribute information held by the holding means (column 1, line 23 through column 2, line 6, column 6, lines 25 through 41, and column 9, lines 62 through 67).

Regarding **claim 7**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the attribute information is configured by a plurality of bits (column 8, lines 1 through 44, and column 9, lines 8 through 45), and the switch means switches the contents of processing of the conversion means in accordance with a combination of ON/OFF states of each bit (column 8, lines 1 through 44, and column 9, lines 5 through 67).

Regarding **claim 8**, Fukaya discloses the apparatus discussed above in claim 7, and further teaches that each bit of the attribute information represents an independent attribute (see Figs. 3A-3H).

Regarding **claim 9**, Fukaya discloses the apparatus discussed above in claim 7, and further teaches that the attribute information contains a bit group representing a specific attribute using a plurality of bits (see Figs. 3A-3H).

Regarding **claim 10**, Fukaya discloses the apparatus discussed above in claim 1, and further teaches that the object data is represented by page description language (column 1, lines 24 through 34, and column 5, lines 23 through 42).

Regarding **claim 11**, Fukaya discloses a storage medium for storing a control program for image processing (column 4, line 23 through column 5, line 22, and column 11, lines 1 through 18), the control program comprising codes for a generation process for generating a bitmap image on the basis of object data inputted (column 1, lines 23 through 51, and column 6, line 25 through column 7, line 26), codes of a holding process for holding attribute information representing a plurality of different types of attributes of the inputted object data in units of pixels of a bitmap image generated in the generation process for holding in a memory (column 6, line 46 through column 7, line 27), the attribute information being formed by allocating plural bits of each pixel of the bitmap image (column 7, lines 7 through 63), codes of a conversion process for converting the bitmap image generated in the generation process into data capable of being processed by an image output unit (column 9, lines 9 through 61), and codes of a switching process for switching the contents of processing in the conversion process on the basis of a combination of the plurality of different types of attributes represented by the attribute information held by the holding process (column 6, lines 29 through 41, and column 9, line 62 through column 10, line 31).

Regarding **claim 12**, Fukaya discloses an image processing system (see Fig. 1) having a host device (computer 110) and an image output unit (printer 120), comprising means for generating a bitmap image on the basis of inputted object data (column 1, lines 23 through 51, and column 6, line 25 through column 7, line 26), means for holding attribute information



representing a plurality of different types of attributes of the inputted object data in units of pixels of a bitmap image generated by the generation means (column 6, line 46 through column 7, line 27), the attribute information being formed by allocating plural bits of each pixel of the bitmap image (column 7, lines 7 through 63), means for converting the bitmap image generated by the generation means into data capable of being processed by an image output unit (column 9, lines 9 through 61), and means for switching the contents of processing in the conversion means on the basis of a combination of the plurality of different types of attributes represented by the attribute information held by the hold means (column 6, lines 29 through 41, and column 9, line 62 through column 10, line 31).

Regarding *claim 13*, Fukaya discloses the system discussed above in claim 12, and further teaches that the attribute information includes information organized hierarchically (see Figs. 3A-3H), and wherein there are one or more units of attribute information of low order concept which is subordinate to that of high order concept (see Figs. 3A-3H, column 5, line 27 through column 6, line 41, and column 6, line 62 through column 7, line 53).

Regarding *claim 14*, Fukaya discloses the system discussed above in claim 12, and further teaches that the attribute information contains information representing whether object data corresponding thereto represents a monochrome or a color object (column 5, lines 36 through 42, and column 7, lines 7 through 27).

Regarding *claim 15*, Fukaya discloses the system discussed above in claim 12, and further teaches that the attribute information contains information representing whether object data corresponding thereto represents a character or any kind of object other than characters (see Figs. 3A-3H, column 5, line 27 through column 6, line 41).

Regarding **claim 16**, Fukaya discloses the system discussed above in claim 12, and further teaches that the attribute information contains information representing whether it has a single bit or a plurality of bit strings (see Figs. 3A-3H, wherein depending upon the command number, different bit strings follow that represent various attributes) and whether or not it is a ground, and wherein the conversion means omits processing for a pixel which is a ground (column 9, lines 8 through 49).

Regarding **claim 17**, Fukaya discloses an image processing method (see Figs. 1, 2, and 7), comprising the steps of generating a bitmap image on the basis of object data inputted (column 1, lines 23 through 51, and column 6, line 25 through column 7, line 26), holding in a memory attribute information representing a plurality of different types of attributes of the inputted object data in units of pixels of a bitmap image generated in the generating step (column 6, line 46 through column 7, line 27), the attribute information being formed by allocating plural bits of each pixel of the bitmap image (column 7, lines 7 through 63), converting the bitmap image generated in the generating step into data capable of being processed by an image output unit (column 9, lines 9 through 61), and switching the contents of processing in the converting step on the basis of a combination of the plurality of different types of attributes represented by the attribute information held in the holding step (column 6, lines 29 through 41, and column 9, line 62 through column 10, line 31).

Regarding **claim 26**, Fukaya discloses an image processing apparatus (printer 120, seen in Fig. 1), comprising a bitmap image generator (CPU 21), arranged to receive inputted object data and to produce a corresponding bitmap image (column 1, lines 23 through 51, and column 6, line 25 through column 7, line 26), a data holding unit (RAM 23) arranged to receive and to

hold attribute information representing a plurality of different types of attributes of the inputted object data in units of pixels of the bitmap image generated by the bitmap image generator (column 6, line 46 through column 7, line 27), the attribute information being formed by allocating plural bits of each pixel of the bitmap image (column 7, lines 7 through 63), a converter (CPU 21) adapted to convert the bitmap image generated by the bitmap image generator into data capable of being processed by an image output unit (column 9, lines 9 through 61), and a switch unit (CPU 21), adapted and arranged to switch the contents of processing in the converter on the basis of a combination of the plurality of different types of attributes represented by the attribute information held by the data holding unit (column 6, lines 29 through 41, and column 9, line 62 through column 10, line 31).

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

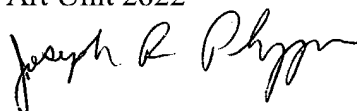
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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Pokrzywa whose telephone number is (703) 305-0146. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (703) 305-4712. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joseph R. Pokrzywa  
Examiner  
Art Unit 2622



jrp